

PESTICIDES WHAT & WHY

#1 IN A SERIES OF 6

PESTICIDES are substances used to manage pests by killing or repelling them.

Pests can be insects, plants, rodents, diseases.

TYPES OF PESTICIDES



HERBICIDES

control unwanted plants (weeds) that compete with crops and natural habitats for nutrients, space, water and sunlight.



FUNGICIDES

protect plants from fungi that can spread from plant to plant and destroy crops (e.g., the fungus that caused the Great Potato Famine in Ireland in the 1800s).



INSECTICIDES

control insects that eat crops or transmit disease, such as grasshoppers that attack and eat crops such as wheat.



RODENTICIDES

kill rodents such as mice and rats that may carry disease.

PESTICIDES FOR FARM ANIMALS, TOO!

Insecticides are used to control mosquitoes, ticks, flies and other insects that may spread disease or feed on animals' blood. De-wormers and tick-and-flea treatments you use on your family pet are examples of insecticides.

Fungicides help treat diseases such as ringworm, a skin infection commonly found in cattle and other mammals, that humans can also catch.



Ticks can feed on the blood of animals and humans and can carry disease.



PESTICIDES TARGET SPECIFIC PESTS

Each type of pesticide is developed to target a certain pest or group/type of pest. For example, broadleaf herbicide only kills weeds with broad leaves (e.g., sowthistle, Canada thistle and dandelion) and not grassy weeds (e.g. brome grass, foxtail and other grasses).

Farmers use **commercial pesticides** to control pests that may affect the health or quality of a crop. If they didn't, then pests would severely reduce the amount of food farmers are able to produce.

Commercial pesticides are also used by Licensed Pesticide Applicators in non-crop areas to:

- get rid of insects, mice and rats,
- Manage diseases and prevent the spread of disease-causing organisms, and
- control weeds.

Domestic pesticides are used to protect private green spaces (lawns and gardens) from insects, weeds and diseases.¹

GO AWAY, PESTS!

Pests can affect our quality of life in many different ways. Termites can damage buildings, weeds can destroy natural habitats and diseases can kill crops.² Pesticides are important tools for protecting agricultural land and natural habitats from insects, diseases and weeds that can "take over" if given the right conditions.



PESTICIDES WHAT & WHY

How are pesticides regulated?

The Pest Management Regulatory Agency (PMRA) of Health Canada regulates each pesticide sold in Canada, whether it's used on a farm, in a forest, or in your backyard. No pesticide can be used in Canada unless it is registered with PMRA. All pesticides have rules for handling, application and storage.³



Apple scab, caused by fungus, is a common disease of apples in British Columbia.

GETTING A NEW PESTICIDE APPROVED FOR USE IN CANADA

It generally takes more than 10 years and hundreds of millions of dollars for a new pesticide to be approved and brought to market for sale in Canada.⁴ Steps taken to gain approval include:

- 1 SCREENING (4-5 YEARS)**
Chemicals are screened to find the right one for the identified problem by testing them to ensure they do what they're supposed to do without harming non-target plants and beneficial insects such as bees.
- 2 RESEARCH (3-4 YEARS)**
Products are tested in greenhouses and small plots in controlled field environments for their effectiveness and potential negative effects on non-target plants, humans, animals and the environment. This research is also used to develop data for submission to Health Canada and other regulators for approval for sale to users.
- 3 EVALUATION (2-4 YEARS)**
Data from research is submitted to Health Canada for review to verify the pesticide does not negatively affect human health or the environment, and serves a useful purpose.
Once it passes this scrutiny, an approved pesticide is granted a registration. The wording for directions for use is then approved by Health Canada.
- 4 RE-EVALUATION AND SPECIAL REVIEW**
Health Canada re-evaluates every pesticide at least every 15 years or when any new information suggests further study is required.⁵



Farmer spraying field before seeding

DO ORGANIC FARMERS USE PESTICIDES?

The first line of defence for organic farmers is working with nature to identify crop varieties, planting times, etc., to create conditions in which pests can't thrive.

Pesticide use on organic farms must be approved by the farmers' organic certifying organization, as well as Health Canada. Pesticides approved for use on organic farms are derived from natural sources. Organic pesticides are subject to the same regulatory requirements as conventional products.



Farmers checking wheat crop for disease and insect pests